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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,791	06/26/2003	Warren B. Jackson	200207604-1	6884

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EXAMINER	
WARREN, MATTHEW E	
ART UNIT	**PAPER NUMBER**
2815	

DATE MAILED: 04/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/608,791	JACKSON ET AL.	
	Examiner	Art Unit	
	Matthew E. Warren	2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 January 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the Declaration and Amendment filed on January 31, 2005.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Stasiak (US Pub. 2003/0230746 A1).

In re claim 1, Stasiak shows (figs. 1a-1b) an organic polymer based memory element comprising two overlapping conductive signal lines (140 and 130) and at least one organic polymer layer (120) within the region of overlap between the two signal lines, the organic polymer layer having at least two detectable memory states [0019], transitions between which arise from one of changes in chemical bonds and changes in organic polymer doping [0023].

Claims 1-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Krieger et al. (US Pub. 2004/0159835 A1).

In re claim 1, Krieger et al. shows (figs. 1-3b, 5, and 11) an organic polymer based memory element comprising two overlapping conductive signal lines (upper electrode and lower electrode) and at least one organic polymer layer (active layer 108) within the region of overlap between the two signal lines, the organic polymer layer having at least two detectable memory states [0029-0030], transitions between which arise from one of changes in chemical bonds and changes in organic polymer doping [0039-0040 and 0050].

In re claim 2, Krieger discloses [0057] that in the first memory state, the organic polymer exhibits a first electrical resistivity, in the second memory state, the organic polymer exhibits a second electrical resistivity lower than the first, and the element is inherently an antifuse type memory element.

In re claim 3, Krieger discloses [0057] that the memory-state transition is initiated by applying to the memory element state-transition facilitating agents such as electrical voltage.

In re claims 4-13, Krieger shows [fig. 1 and 2] that the organic polymer layer is adjacent an additional layer (passive layer 106). The organic polymer layer and additional layer inherently have all of the memory-state transition properties of the claims because the structure and materials are the same as those of the claimed invention.

In re claim 14, Krieger discloses [0030-0031] that in the first memory state, the organic polymer exhibits a first electrical resistivity, in the second memory state, the

organic polymer exhibits a second electrical resistivity higher than the first, and the element is inherently an fuse type memory element.

In re claim 15, Krieger discloses [0030-0031] that the memory-state transition is initiated by applying to the memory element state-transition facilitating agents such as electrical voltage.

In re claims 16-25, Krieger shows [fig. 1 and 2] that the organic polymer layer is adjacent an additional layer (passive layer 106). The organic polymer layer and additional layer inherently have all of the memory-state transition properties of the claims because the structure and materials are the same as those of the claimed invention.

In re claims 26 and 27, Krieger discloses [0071] that upon application of a switch, the memory element irreversibly transitions from the first memory state to the second memory state [0030-0031] or reversibly transitions from the first memory state to a second memory state and back to the first memory state with a second switch [0057] since a switching means is inherently used to turn the voltage on or off.

In re claims 28-32, Krieger shows (fig. 11) [0072-0073] that the memory elements form a two-dimensional array or a three dimensional array for switching between memory states to store data values. The memory cell is used in a computer system having a processor.

Response to Affidavit

The Declaration filed on January 31, 2005 under 37 CFR 1.131 has been considered but is ineffective to overcome the Stasiak (US Pub. 2003/0230746 A1) reference. The evidence submitted is insufficient to establish diligence from a date prior to the date of reduction to practice of the Stasiak reference to either a constructive reduction to practice or an actual reduction to practice. The evidence submitted only discloses the chemical composition of and process of making polymers, which has nothing to do with the claimed invention. There is nothing in the evidence that suggests diligence in making an organic-polymer based memory element comprising two overlapping conductive signal lines, which is the claimed invention.

The evidence submitted is insufficient to establish a reduction to practice of the invention in this country or a NAFTA or WTO member country prior to the effective date of the Stasiak reference. As stated before, there is nothing in the evidence that suggests reduction to practice of an organic-polymer based memory element comprising two overlapping conductive signal lines, which is the claimed invention. Furthermore, the applicant alleges that the reduction to practice occurred no later than July 30, 2002, however that date is still later than the effective filing date of Stasiak which is June 14, 2002. The applicant's Affidavit has not overcome Stasiak or Krieger for that matter.

Response to Arguments

Applicant's arguments filed with respect to the Krieger reference have been fully considered but they are not persuasive. The applicants primarily assert that Krieger (US Publication 2004/0159835 A1) cannot be cited as prior art because the Krieger Parent (PCT/RU01/00334) does not provide support for the cited limitations in the Publication. The examiner believes that the PCT provides support for the cited limitations of the Publication because the applicant has not shown any specific evidence to the contrary. The applicant cited various paragraphs of the Parent PCT which discussed or do not discuss functional zones between electrodes, however the Parent PCT is in Russian and translated portions of such alleged paragraphs have not been provided. Furthermore, it is difficult to determine which paragraphs are being referred to in the Parent PCT because page and line numbers are used for identification instead of the paragraph [0001] format. Also, the applicant argues that the Krieger Publication or Parent PCT do not disclose information related to the functional zones between electrodes. The claims only pertain to an organic polymer layer between two overlapping signal lines, which both the Krieger Publication (figs. 1 and 2) and Parent PCT (figs. 3-8) show. Therefore, the applicant has not provided any conclusive or specific evidence that the Krieger Publication does not deserve the effective filing date of the Parent PCT. The rejection will remain above is still applicable and will be final.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Warren whose telephone number is (571) 272-1737. The examiner can normally be reached on Mon-Thur and alternating Fri 9:00-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MEW
MEW
April 11, 2005

Tom Thomas
TOM THOMAS
SUPERVISORY PATENT EXAMINER